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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,810	10/30/2003	Eric Robert Bechhoefer	BFM-03701	1298

7590

02/23/2005

Patent Group  
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Exchange Place  
53 State Street  
Boston, MA 02109-2804

EXAMINER
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CHARIOUI, MOHAMED

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,810

Applicant(s)

BECHHOEFER, ERIC ROBERT

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/29/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-3, 8-13, 18 and 19** are rejected under 35 U.S.C. 102(e) as being anticipated by Muntz (U.S. 6,532,215).

**As per claims 1-3 and 10-13** Muntz teaches digitizing the electrical signal to provide a digitized signal (see col. 9, line 53 to col. 10, line 5); and providing a plurality of stored digitized signals, wherein each stored digitized signal corresponds to a type of fault for the conductor (see col. 10, lines 6-23); comparing the digitized signal to each of the stored digitized signals to determine a score (i.e. characteristic impedance) therefore (see col. 10, lines 6-23); if the score is less than a predetermined value for a particular one of the stored digitized signals, classifying the portion of the electrical signal as a fault corresponding to the particular one of the stored digitized signals; and if none of the scores are less than the predetermined value, classifying the portion of the electrical signal as having no fault (see col. 10, lines 6-23).

**As per claims 8, 9, 18 and 19**, Muntz further teaches determining a score for a particular one of the stored digitized signals includes determining differences between

the digitized signal and the particular one of the stored digitized signals at each point and summing the squares thereof (see col. 10, line 59 to col. 11, line 5).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 4-7 and 14-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Muntz in view of Arjavalingham et al. (U.S. 5,502,392).

Muntz teaches the system as stated above except for compensating the signal to remove unwanted reflective components caused by inverse scattering.

Arjavalingham et al. teaches this feature (see col. 3, line 58 to col. 4, line 29 and col. 8, lines 30-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Arjavalingham et al.'s teaching into Muntz's invention because it would remove unwanted reflective components caused by inverse scattering. Therefore, the noise induced by the reflective components caused by inverse scattering would be eliminated and the accuracy of the fault classification would be improved.

**Prior art**

3. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

**Soraghan et al. ['561]** disclose automatic fault location in cabling system.

**Rosen et al. ['276]** disclose detecting faults in subscriber telephone lines.

**Yang ['946]** discloses fault type classification algorithm.

**Christensen et al. ['547]** disclose wiring fault detection, diagnosis and reporting for process control system.

**Liggett ['118]** discloses system and method for processing of communication line test signals, such as enhancement processing.

**Harasswa et al. ['940]** disclose unwanted signal suppression device.

#### **Contact information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit: 2857

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Mohamed Charioui

2/17/05

A handwritten signature in black ink, appearing to read 'Etienne Assouad', with a stylized flourish at the end.

ETIENNE ASSOUD  
PRIMARY EXAMINER